Abstract

Method for controlling the lean operation of an internal combustion engine, especially an internal combustion engine of a motor vehicle, provided with a nitrogen oxide storage catalyst

The invention relates to a method for controlling the lean operation of an internal combustion engine, especially an internal combustion engine of a motor vehicle, provided with a nitrogen oxide storage catalyst. As claimed in the invention, in a first process step, to establish the instant of switching from the storage phase to the discharge phase, a switching operating point is determined at least from the integral value of the nitrogen oxide mass flow upstream and/or downstream of the storage catalyst. The respective switching operating point is compared in a second process step to a definable operating field which is optimized especially with respect to the fuel savings potential as a function of the load acceptance of the internal combustion engine, which is formed by a plurality of individual operating points for one new and one aged storage catalyst, for a switching operating point which is located within the operating field the engine control enabling lean operation and thus switching between the storage phase and the discharge phase of the nitrogen oxide storage catalyst, while the engine control dictates lambda operation of the internal combustion engine at which lambda is equal to 1 for a switching operating point which departs from the definable operating field.

FIG. 5